High-Mu Triode—Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

For Video-Amplifier Service in Color-TV Receivers and Other Applications Using Positive Triode-Grid Operation

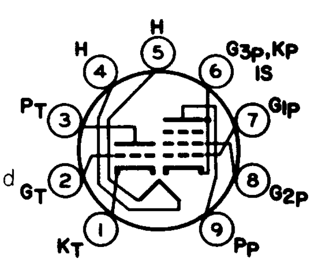
Electrical:

Heater Characteristics and Ratings:			
Voltage (AC or DC)	6.3 ± 0.6[a]		volts
Current at heater volts = 6.3	0.600[b]		amp
Warm-up time (Average)	11		sec
Peak heater-cathode voltage (Each unit):			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[c]	max.	volts
Direct Interelectrode Capacitances:[d]			
Triode Unit:			
G_T to P_T	2.2		pf
Input: G_T to (K_T,K_P+$G3_P$+IS,H)	3.2		pf
Output: P_T to (K_T,K_P+$G3_P$+IS,H)	1.8		pf
Pentode Unit:			
$G1_P$ to P_P	0.060	max.	pf
Input: $G1_P$ to (K_P+$G3_P$+IS,$G2_P$,H)	10		pf
Output: P_P to (K_P+$G3_P$+IS,$G2_P$,H)	3.6		pf
$G1_P$ to P_T	0.008	max.	pf
P_P to P_T	0.15	max.	pf

Mechanical:

Operating Position	Any
Type of Cathodes	Coated Unipotential
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" ±3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	See *General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9DX

Pin 1 - Triode Cathode
Pin 2 - Triode Grid
Pin 3 - Triode Plate
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Cathode, Grid No.3, Internal Shield
Pin 7 - Pentode Grid No.1
Pin 8 - Pentode Grid No.2
Pin 9 - Pentode Plate



6LF8

Characteristics, Class A Amplifier:

	Triode Unit		*Pentode Unit*		
Plate Voltage	200	40	75	100	volts
Grid-No.2 Voltage	–	–	150	150	volts
Grid-No.1 Voltage	–2	+3	0	–2.5	volts
Amplification Factor	70	40	–	–	
Plate Resistance (Approx.)	17500	10000	–	200000	ohms
Transconductance	4000	4000	–	11000	μmhos
Plate Current	4	11	50[e]	20	ma
Grid-No.2 Current	–	–	12[e]	5	ma
Grid-No.1 Current	0	2.7	0	0	ma
Grid-No.1 Voltage (Approx.) for plate μa = 20	–5	–	–	–8	volts

AMPLIFIER — Class A[f]

Maximum Ratings, *Design-Maximum Values:*

	Triode Unit as Class A_1 or A_2 Amplifier	*Pentode Unit as Class A_1 Amplifier*	
Plate Voltage	330 max.	330 max.	volts
Grid-No.2 (Screen-Grid) Supply Voltage	–	330 max.	volts
Grid-No.2 Voltage	–	See *Grid-No. 2-Input Rating Chart* at front of Receiving Tube Section	
Grid-No.1 (Control-Grid) Voltage:			
Negative-bias value	55 max.	55 max.	volts
Positive-bias value	4 max.	0 max.	volts
Grid-No.1 Current	8 max.	0 max.	ma
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	–	1.1 max.	watts
For grid-No.2 voltages between 165 and 330 volts	–	See *Grid-No. 2-Input Rating Chart* at front of Receiving Tube Section	
Plate Dissipation	1.1 max.	3.75 max.	watts

Maximum Circuit Values:

	Triode Unit	*Pentode Unit*	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.5 max.	0.25 max.	megohm
For cathode-bias operation	1 max.	1 max.	megohm

[a] For parallel heater operation.

[b] For series heater operation current must be limited to 0.600 ± 0.040 amperes.

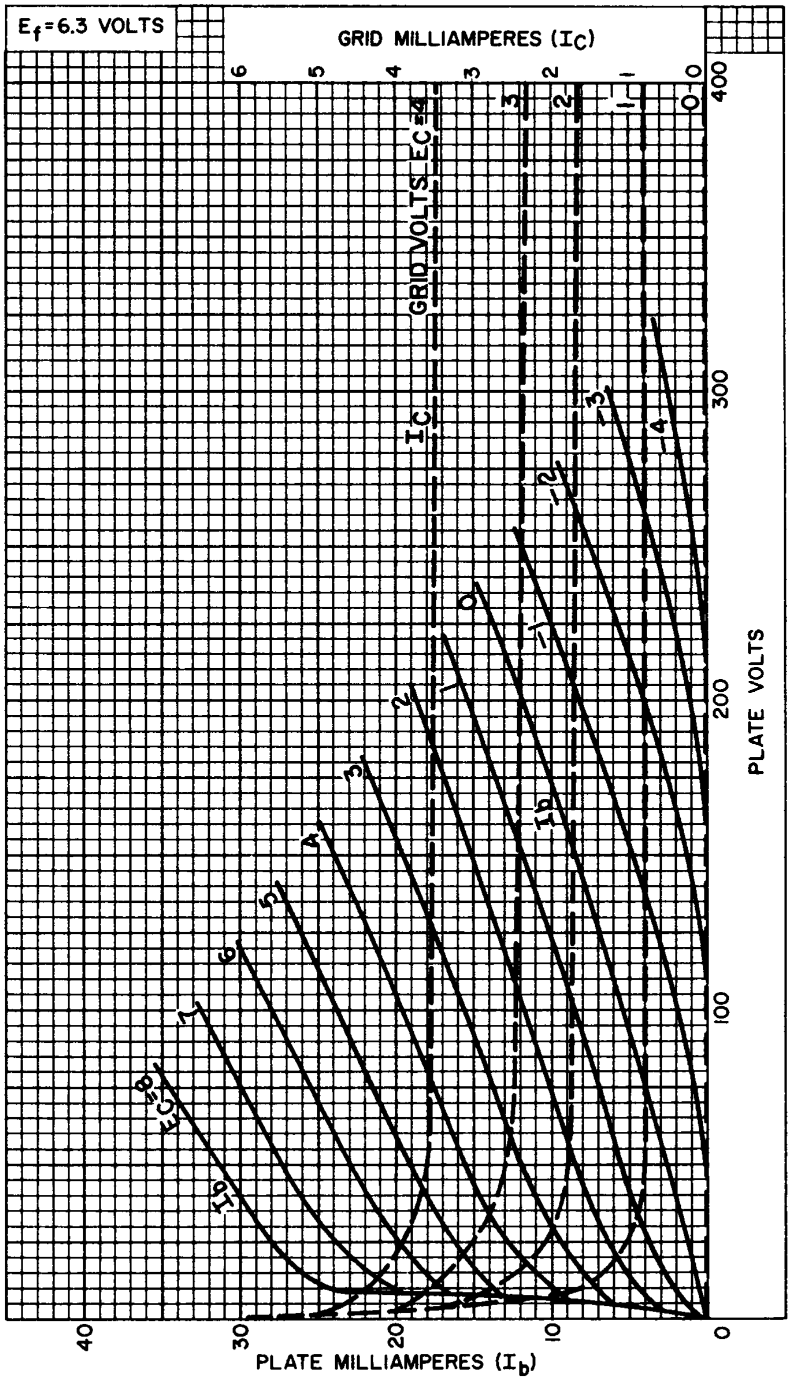
[c] The dc component must not exceed 100 volts.

[d] Without external shield.

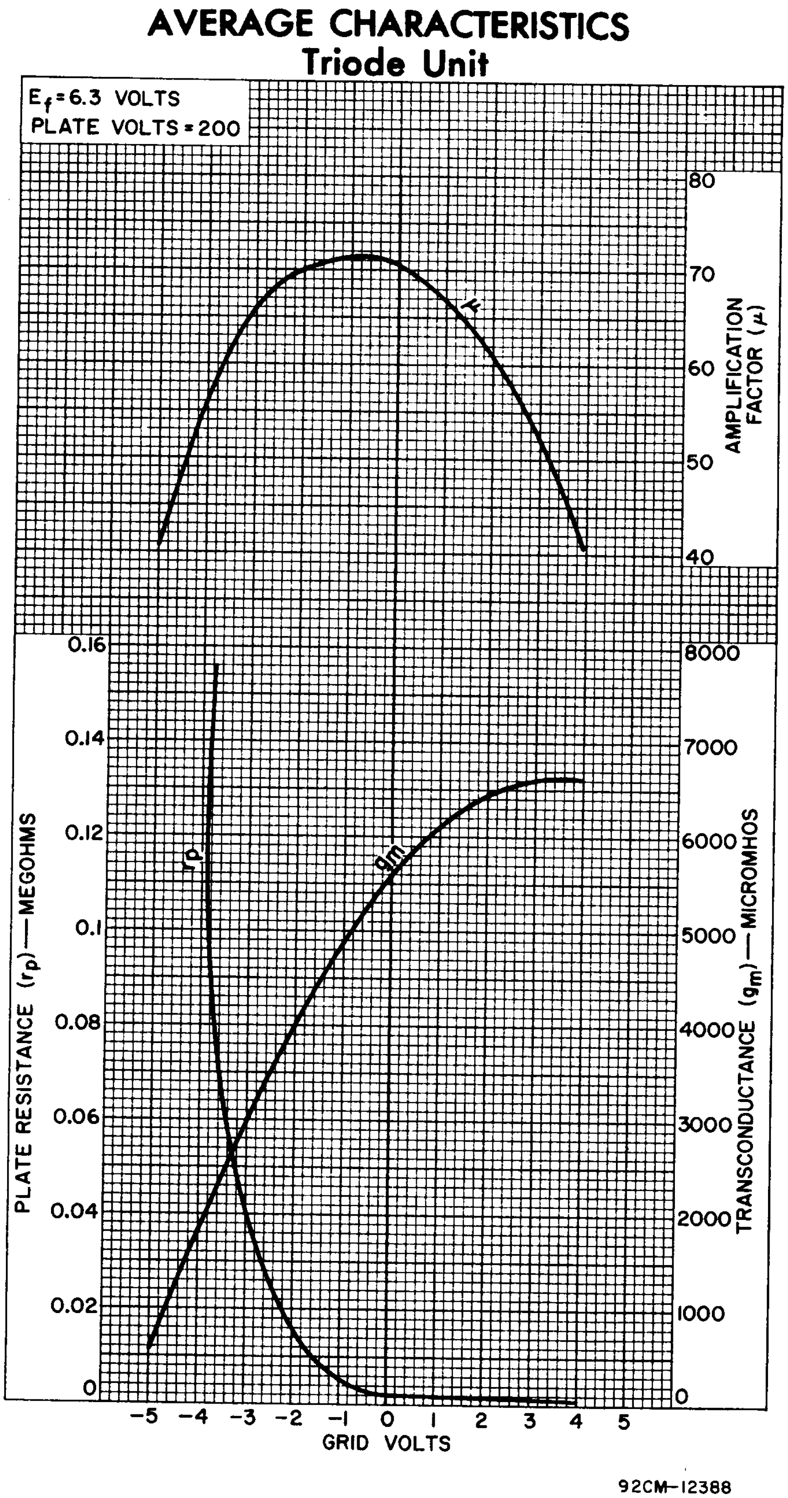
[e] This value can be measured by a method involving a recurrent wave form such that the maximum ratings of the tube will not be exceeded.

[f] A Class A Amplifier is an amplifier in which the grid bias and varying grid voltages are such that plate current flows at all times. The subscript 1 added to the class letter denotes that *grid current* does not flow during any part of the input cycle. The subscript 2 denotes that *grid current* flows during some part of the cycle.

AVERAGE CHARACTERISTICS
Triode Unit



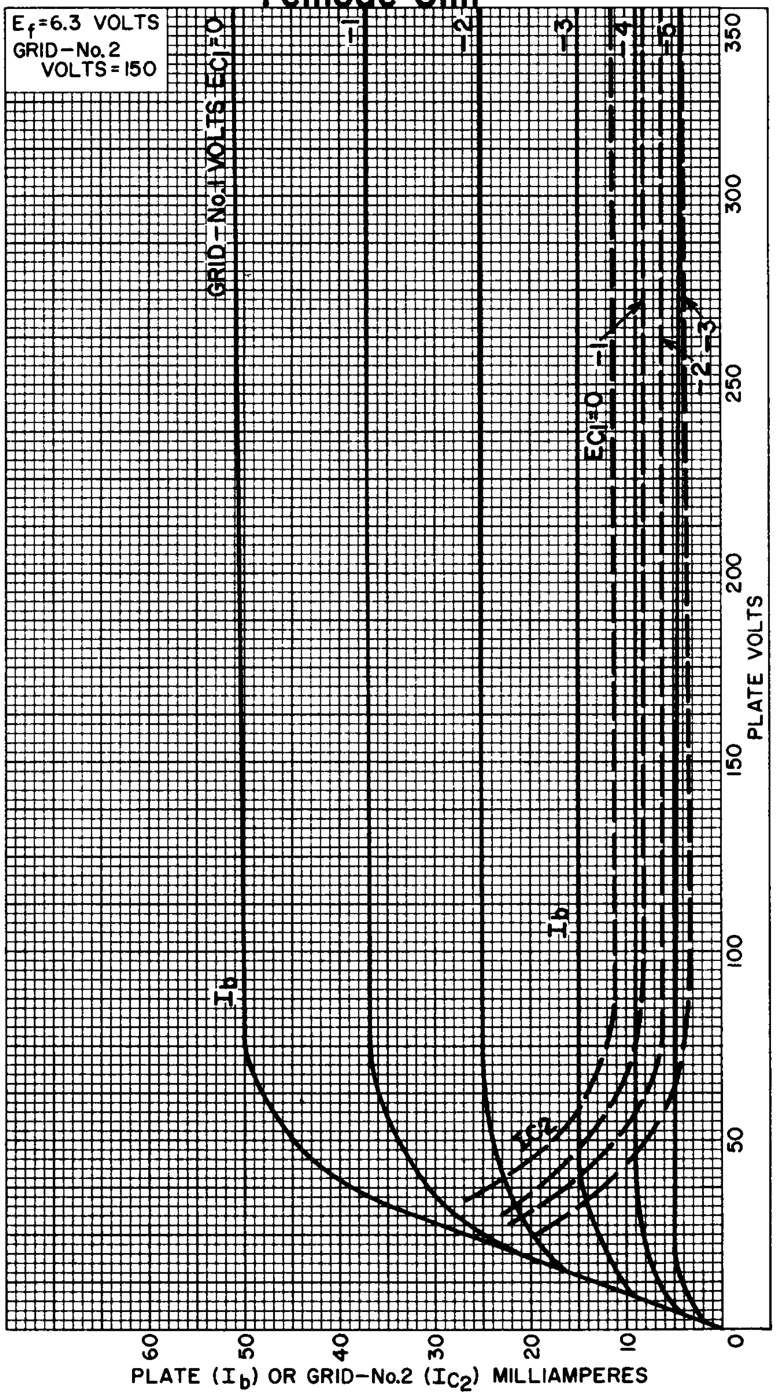
92CM—12384



AVERAGE CHARACTERISTICS
Triode Unit
E_f=6.3 VOLTS
PLATE VOLTS=200
μ
80
70
60
50
40
AMPLIFICATION FACTOR (μ)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
PLATE RESISTANCE (r_p)—MEGOHMS
r_p
g_m
8000
7000
6000
5000
4000
3000
2000
1000
0
TRANSCONDUCTANCE (g_m)—MICROMHOS
−5 −4 −3 −2 −1 0 1 2 3 4 5
GRID VOLTS
92CM-12388

AVERAGE CHARACTERISTICS

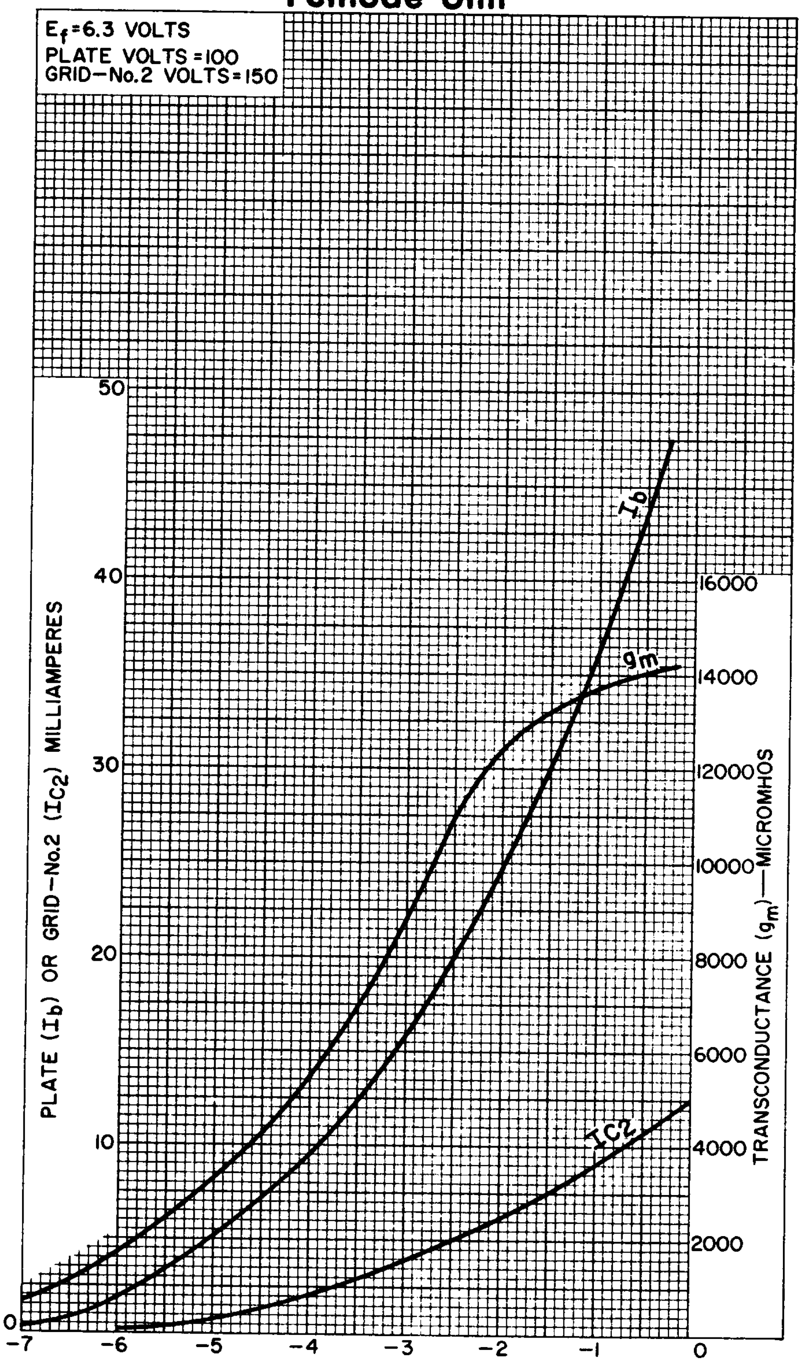
Pentode Unit



92CM-12398

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AVERAGE CHARACTERISTICS
Pentode Unit



92CM-12403